Ohio | Development
Services Agency

State of Ohio Four Year Appalachian Development Plan, FY 2016 – 2019

August 2016

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Governor's Office of Appalachia and
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Submitted To:
Appalachian Regional Commission
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Introduction

The State of Ohio submits this state development plan in compliance with the requirements set forth in Chapter 5 of the Code of the Appalachian Regional Development Commission (ARC).

The *State of Ohio Four-Year Appalachian Development Plan, FY 2016-2019* describes the Governor's goals, objectives, and priorities for Ohio's Appalachian region and serves as a guidance document for the Governor's Office of Appalachia (GOA) and Ohio's four Local Development Districts (LDDs) through 2019. The goals, objectives, and priorities presented are designed to address the unique needs of Appalachian Ohio to contribute to the economic, educational, and community prosperity of the people of Ohio's 32 Appalachian counties using funds from the ARC and from the State of Ohio.

Ohio's Appalachian Development Plan and Annual Strategy Statements align with the ARC's four strategic goals:

- Increase job opportunities and per capita income in Appalachia to reach parity with the nation.
- Strengthen the capacity of the people of Appalachia to compete in the global economy.
- Develop and improve Appalachia's infrastructure to make the Region economically competitive.
- Build the Appalachian Development Highway System to reduce Appalachia's isolation.

The *State of Ohio Four-Year Appalachian Development Plan, FY 2016-2019* will be submitted by Governor John Kasich for review and approval at a Governors' Quorum Meeting, or via mail ballot authorized at such a meeting, and will remain in effect until amended or a new Development Plan is approved by the ARC.

The *State of Ohio Four-Year Appalachian Development Plan, FY 2016-2019* is available on the Ohio Development Services Agency's (ODSA) website at http://development.ohio.gov/cs/cs_goa.htm. Additional information about Appalachian Ohio such as program specifics, policies and contact information is also available on the website and from Ohio's Local Development Districts (LDDs).

Ohio Appalachian Region

The Ohio Appalachian region consists of 16,011.5 square miles – slightly more than 39 percent of the state's land area. The region stretches from the eastern edge of Cincinnati, east along the Ohio River and north along the Pennsylvania border to Lake Erie (Map 1). Ohio's 32 contiguous Appalachian counties are: Adams, Ashtabula, Athens, Belmont, Brown, Carroll, Clermont, Columbiana, Coshocton, Gallia, Guernsey, Harrison, Highland, Hocking, Holmes, Jackson, Jefferson, Lawrence, Mahoning, Meigs, Monroe, Morgan, Muskingum, Noble, Perry, Pike, Ross, Scioto, Trumbull, Tuscarawas, Vinton, and Washington.

The Appalachian counties include medium- and large-sized cities and metropolitan areas, smaller cities, and small villages and unincorporated communities; farmland, rural communities, and urban and industrial areas; steep terrain, rolling hills, plains, and river valleys; state and national forests, parkland, and river- and lake-front communities.

Map 1: Ohio Appalachian Region

Only 3.71 percent of the region is described as urban, having land use and land cover that consists of residential, commercial, industrial, transportation, and urban grasses. Of the remaining 96.29 percent of Ohio Appalachia's land cover, the highest percentage – 64.32 percent – is forested, 19.08 percent is cropland, and 10.69 percent is pasture. The remaining 2.20 percent of the region is classified as wooded or herbaceous wetlands, open water, and bare or mine lands. Statewide, the 37.12 percent of forested land is heavily concentrated in the 32 Appalachian counties.

Historically characterized as economically depressed and geographically isolated, the Appalachian region has been home to a self-reliant and independent people with strong ties to the land and their families. ODSA's Policy Research & Strategic Planning Office provides annual profiles of the state and each county and also of Ohio's Appalachian region. Copies of the most recent Ohio profile and Ohio Appalachian profile, published in 2013, can be found at:
http://development.ohio.gov/reports/reports_countytrends_map.htm

Updated Overview of Ohio's Appalachian Region

Economic Conditions
Population

Ohio's Appalachian region is more sparsely populated than the rest of the state. The 2010 Census lists Ohio as 12th among the 50 states in population density with 282.3 people per square mile. Based on data from ODSA's Appalachian and Ohio profiles, the population density for the Appalachian region is 127.5 people per square mile and for the non-Appalachian region – the remaining 56 counties – 380.7 people per square mile.
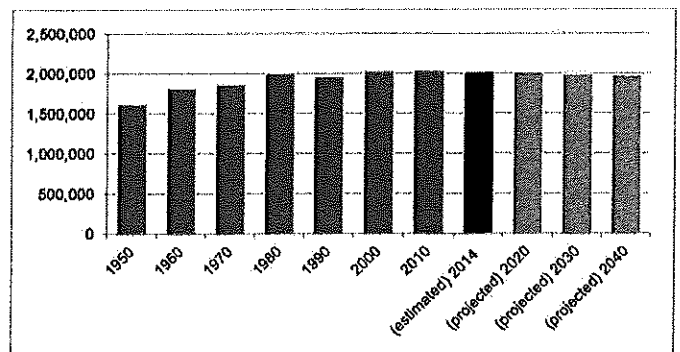
With a population of 2,042,040 based on the 2010 U.S. Census, Appalachian Ohio represents 17.7 percent of Ohio's total population of 11,536,504.

Figure 1: Projected Population Change

Source: U.S. Census
*projections based on OPRSP

The 2008 ARC reauthorization legislation designated Trumbull, Mahoning, and Ashtabula counties as Appalachian, increasing the number of Ohio Appalachian counties from 29 to 32. Adjusting for these additional counties, the population of Ohio's Appalachian region has remained steady during the past four decades and is projected to see a slight decline over the next three decades (see Figure 1).

Based on 2000 and 2010 Census figures, the population of Appalachian Ohio remained stable, increasing by only 1,328 – a growth rate lower than Ohio's annualized percent change of 1.6 percent. As in other regions of the state, the county-by-county population changes from 2000 to 2010 have varied. As shown in Map 2, Jefferson, Mahoning, and Trumbull counties experienced population losses greater than 5 percent during that 10-year period. Of the 22 counties that experienced increases in population, only Clermont and Holmes counties had more than an 8 percent increase in population from 2000 to 2010.

Of Ohio's 10 largest cities, based on the 2010 Census figures, one is in the Appalachian region. The City of Youngstown in Mahoning County is ranked ninth with a population of 66,982. The populations of nine of Ohio's 10 largest cities decreased significantly between the 2000 Census and the 2010 Census, with Youngstown reporting the largest percentage decrease – 18.3 percent.

**Map 2: U.S. Census Population Change 2000 – 2010**

Source: U.S. Census

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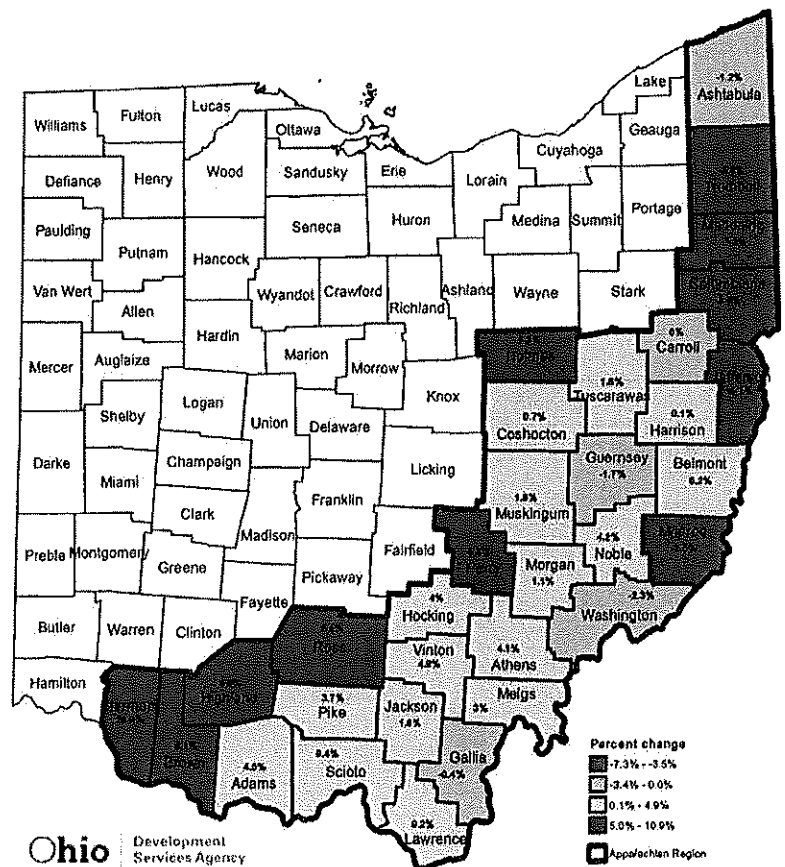
Unemployment

Historically, the Appalachian region has experienced higher levels of unemployment when compared to national and state annual unemployment rate averages as indicated in Figure 2. As of 2014, the Ohio Appalachian region unemployment rate was 6.7 percent, which is higher than the Ohio average, as reported by the Bureau of Labor Statistics data tracked by the ARC.

Map 3 shows that unemployment rates of Appalachian counties vary throughout the region, and high unemployment rates are not concentrated in one particular area of the region.

Map 3: 2014 Unemployment Rate

Source: Bureau of Labor Statistics
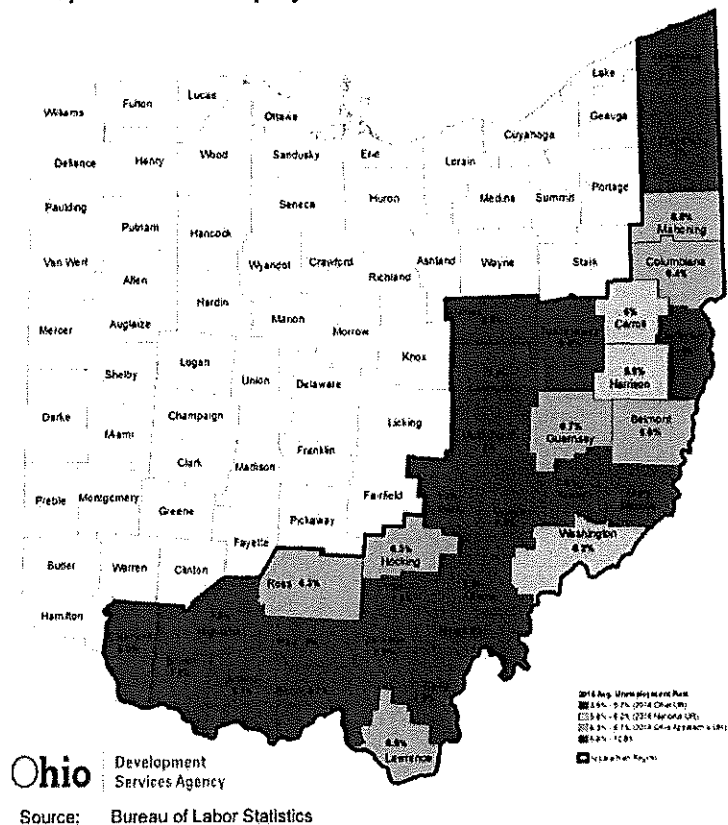
Figure 2: 2007 – 2014 Annual Average Unemployment Rate Comparison
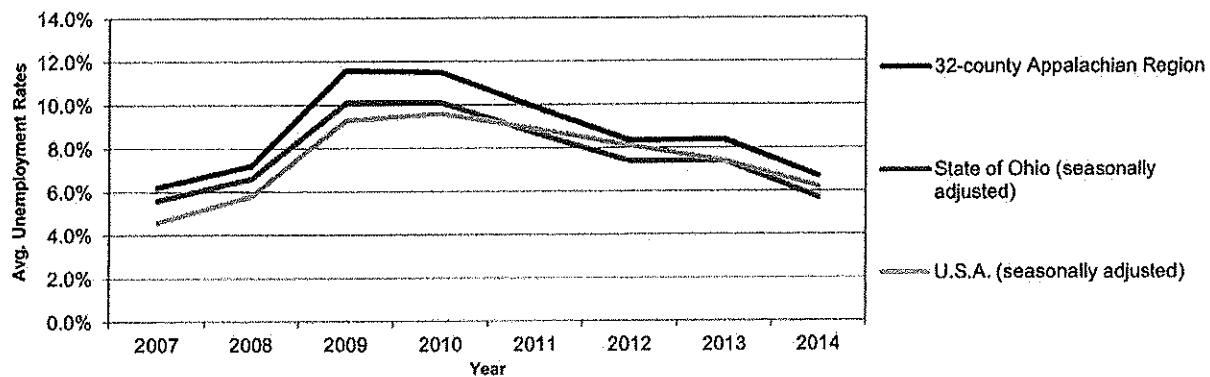
Source: Bureau of Labor Statistics

Employment

The U.S. Bureau of Labor Statistics (BLS) releases annual employment and wage data through the Quarterly Census of Employment and Wages (QCEW) program aggregated by industry at the national, state and county levels. Table 1 below provides a comparison of 2009 to 2013 private and public sector QCEW data for Ohio's Appalachian Region to show how the region's economic condition has responded to the recession that began in 2008. As indicated in the data provided by the BLS in Table 2, the private sector experienced a 3.4 percent increase in average employment from 510,657 people in 2009 to 528,039 in 2013. Within the private sector, 76.7 percent of all employment fell within service provider industries and 23.3 percent within goods-producing industries. Approximately 106,000 people were employed in the public sector in 2013 as either federal, state, and local government employees, which represents a 5.5 percent decrease from 2009.

Total wages in the goods-producing private sector were $6 billion, $12.4 billion in the service-producing private sector, and $3 billion in the government sector. Average salaries increased in all sectors and industries with the private sector increasing by 9.3 percent. The natural resources and mining industry experienced the largest increase in annual average salary from more than $48,000 in 2009 to nearly $58,000 in 2013, which represents a nearly 20 percent increase. Overall, the goods-producing industries' annual average salaries increased by 10.2 percent and those of the service provider industries increased by 8.6 percent.

Table 1: Ohio Appalachian Employment Sectors Percent Change from 2009 – 2013

	Number of Establishments	Average Employment	Total Wages	Average Weekly Wages
Private Sector	-3.1%	3.4%	13.0%	9.3%
Goods Producing	-9.3%	5.2%	15.9%	10.2%
Natural Resources and Mining	6.0%	8.2%	30.0%	20.1%
Construction	-12.1%	3.7%	16.7%	12.6%
Manufacturing	-8.5%	4.1%	12.7%	8.3%
Service Producing	-1.6%	2.9%	11.7%	8.6%
Trade, Transportation and Utilities	-3.1%	0.4%	8.9%	8.5%
Information	-9.3%	-19.7%	-12.5%	9.0%
Financial Services	-4.3%	-8.4%	1.0%	10.2%
Professional and Business Services	1.1%	23.7%	43.0%	15.6%
Education and Health Services	1.4%	0.9%	7.2%	6.2%
Leisure and Hospitality	-2.7%	6.1%	15.6%	8.9%
Other Services	0.6%	-0.6%	10.1%	10.8%
Federal Government		-5.5%	-2.2%	3.5%
State Government		-5.3%	-3.1%	2.3%
Local Government		-7.1%	-3.4%	4.0%

Source: Bureau of Labor Statistics

Table 2: Ohio Appalachian Employment Sectors in 2013

	Number of Establishments	Average Employment	Total Wages	Average Weekly Wages
Private Sector	38,338	528,039	$18,506,561,977	$672
Goods Producing	6,964	123,009	$6,036,802,055	$941
Natural Resources and Mining	690	7,613	$440,520,803	$1,109
Construction	3,844	26,467	$1,281,274,038	$928
Manufacturing	2,431	85,778	$4,148,381,773	$927
Service-Producing	31,374	405,030	$12,469,759,922	$590
Trade, Transportation and Utilities	9,817	130,909	$4,178,453,443	$612
Information	460	6,451	$300,290,100	$892
Financial Services	3,541	22,022	$913,840,144	$795
Professional and Business Services	4,884	50,835	$1,948,806,920	$735
Education and Health Services	4,780	109,798	$3,860,710,172	$674
Leisure and Hospitality	4,136	66,656	$863,060,877	$248
Other Services	3,711	18,089	$396,555,267	$420
Federal Government		6,968	$403,023,609	$1,109
State Government		17,035	$855,396,947	$962
Local Government		82,124	$2,982,260,065	$696

Source: Bureau of Labor Statistics

The number of private sector establishments decreased by 3.1 percent from 2009 to 2013 in all goods-producing and service-producing sectors. A number of areas saw increases in average employment during that period, including professional and business services, manufacturing, education and health services, and leisure and hospitality.

The Ohio Development Services Agency's Office of Research compiled statistics regarding annual business filings and active businesses in the Ohio Appalachian Region from 2008 to 2014, as indicated in Table 3. Based upon this data, there were 21 percent fewer business filings in 2014 than in 2008 and approximately 7 percent fewer active businesses in 2014 than in 2008.

Table 3: Business Activity 2008 – 2014 in Ohio Appalachia

Business Numbers	2008	2009	2010	2011	2012	2013	2014	Percent Change Since 2008
Business Starts	3,114	2,979	2,523	2,624	2,988	2,600	2,445	-21.5%
Active Businesses	36,026	34,985	34,310	34,038	33,703	33,638	33,552	-6.9%

Source: Bureau of Labor Statistics and ODSA's Office of Research

Poverty

The Appalachian region of Ohio has a poverty rate of 17.6 percent based upon the U.S. Census American Community Survey 2009-2013 data. Eighteen counties, primarily located in the southernmost portion of the region, have a poverty rate greater than the average of the Ohio Appalachian region. Athens County is the only county in the Ohio Appalachian region with poverty rate levels exceeding 30 percent, as indicated on Map 4. As of 2013, only six counties in the Ohio Appalachian region have poverty rates at or below the national average of 15.4% percent. The Ohio Appalachian region has historically had poverty rate levels higher than state and national averages, as indicated in Figure 3 on the next page.

As part of the annual American Community Survey release, the Census Bureau examines the poverty rate and how it relates to educational attainment. As indicated in Table 4 on the next page, there is a strong correlation between poverty and educational

Map 4: 2013 Appalachian Counties Poverty Rate

Ohio Development Services Agency

Source: 2009-2013 ACS

attainment. As of 2013, the Appalachian Ohio region exhibited higher poverty rate levels than national and state averages for the "some college" and college degree categories; however, it is important to note that the Census Bureau does not account for populations entering trade schools. In Ohio, a survey of in-demand jobs has found that many of the skilled trades top the list, which is maintained at www.ohiomeansjobs.com.

Figure 3: Poverty Rate Comparison 1980 – 2013
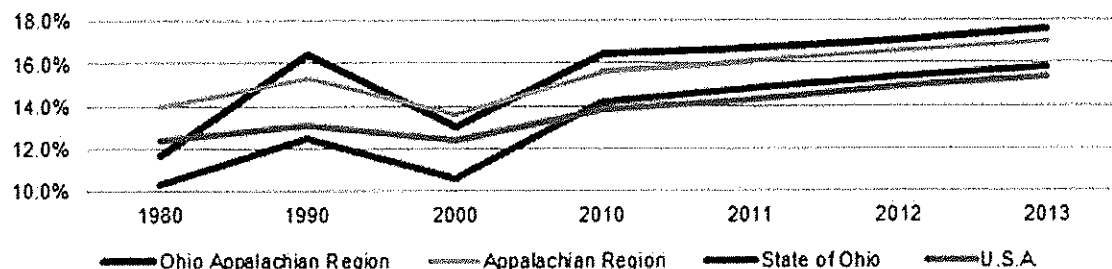
Table 4: Educational Attainment and Poverty Rate Relationship

Area	POVERTY RATE FOR THE POPULATION 25 YEARS AND OVER FOR WHOM POVERTY STATUS IS DETERMINED BY EDUCATIONAL ATTAINMENT LEVEL			
	Less than high school graduate	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
United States	27.10%	13.70%	10.10%	4.30%
Ohio	28.10%	12.90%	11.00%	4.00%
Appalachian Ohio	27.34%	13.45%	11.90%	4.55%

Per Capita Personal Income

Per capita personal income in both Ohio and Ohio's Appalachian region grew steadily from 1999 to 2013. The per capita personal income for the State of Ohio for 2013 was $41,049, approximately $7,100 more that the per capita personal income for Ohio's Appalachian region ($33,943) during the same time period, as indicated in Table 5. The methodology ARC uses to determine this information can be found at the following website:
http://www.arc.gov/research/SourceandMethodologyPersonalIncomeRates.asp

Table 5: Personal Income Rate, 2013

	Total Personal Income (1000's), 2013	Transfer Payments (1000's), 2013	BEA Population, 2013	Per Capita Income, 2013	Per Capita Income, Percent of U.S. Average, 2013	Per Capita Market Income, 2013	Per Capita Market Income, Percent of U.S. Average, 2013
United States	$14,151,427,000	$2,414,501,000	316,128,839	$44,765	100.0%	$37,127	100.0%
Appalachian Region	$930,443,292	$219,324,300	25,416,616	$36,608	81.8%	$27,979	75.4%
Ohio	$474,973,111	$93,598,896	11,570,808	$41,049	91.7%	$32,960	88.8%
Appalachian Ohio	$68,649,319	$18,379,077	2,022,518	$33,943	75.8%	$24,855	66.9%

Education

Educational attainment rates for Ohio's Appalachia region showed improvement between 2000 and 2014. The U.S. Census American Community Survey reported 85.9 percent of 25 year olds and over are high school graduates, which is an increase of 6.6 percent from the 2000 Census (see Table 6). Currently, the region has relatively the same percentage of high school graduates in this age group than the national average, and only 2.9 percent lower than the state average as a whole.

The gap between the population of Ohio's Appalachia region and the state as a whole with a bachelor's degree or higher has been significantly reduced since 2000. Currently, 25.6 percent of 25 year olds and over in Ohio have a bachelor's degree or higher, compared to 16.5 percent among the same age group in Ohio's 32 Appalachian counties. Although the percentage is significantly less than the national and state averages, the region has experienced an increase of more than 3 percent in attaining bachelor's degrees since 2000.

Table 6: Education Attainment Levels 2000 – 2014

Location	Percent of 25 year olds and over with High School Diploma (2014)	Percent of 25 year olds and over with High School Diploma (2000)	Percent Change of 25 year olds and over with High School Diploma (2000-2014)	Percent of 25 year olds and over with a Bachelor's Degree or Higher (2014)	Percent of 25 year olds and over with a Bachelor's Degree or Higher (2000)	Percent Change of 25 year olds and over with a Bachelor's Degree or Higher (2000-2014)
United States	86.4%	80.4%	6.0%	29.3%	24.4%	4.9%
Ohio	88.8%	82.9%	5.9%	25.6%	21.1%	4.5%
Appalachian Ohio	85.9%	79.3%	6.6%	16.5%	13.2%	3.3%
Adams	77.1%	68.6%	8.5%	9.8%	7.2%	2.6%
Ashtabula	85.6%	79.9%	5.7%	13.4%	11.0%	2.4%
Athens	89.3%	82.9%	6.4%	28.9%	25.7%	3.2%
Belmont	89.3%	80.8%	8.5%	14.9%	11.2%	3.7%
Brown	82.7%	74.8%	7.9%	11.4%	8.8%	2.6%
Carroll	86.6%	80.1%	6.5%	10.6%	9.2%	1.4%
Clermont	88.8%	82.1%	6.7%	26.2%	20.8%	5.4%
Columbiana	87.2%	80.6%	6.6%	13.6%	10.7%	2.9%
Coshocton	84.1%	78.7%	5.4%	12.1%	9.7%	2.4%
Gallia	79.3%	73.8%	5.5%	14.7%	11.6%	3.1%
Guernsey	85.3%	78.4%	6.9%	13.2%	10.0%	3.2%
Harrison	86.8%	79.5%	7.3%	9.4%	9.0%	0.4%
Highland	82.2%	76.4%	5.8%	11.2%	9.7%	1.5%
Hocking	86.9%	78.0%	8.9%	13.7%	9.8%	3.9%
Holmes	55.7%	51.5%	4.2%	7.8%	8.2%	-0.4%
Jackson	82.7%	73.5%	9.2%	17.4%	11.0%	6.4%
Jefferson	89.4%	81.6%	7.8%	15.2%	11.9%	3.3%
Lawrence	85.2%	75.7%	9.5%	14.7%	10.2%	4.5%
Mahoning	89.1%	82.5%	6.6%	21.5%	17.5%	4.0%
Meigs	82.5%	73.2%	9.3%	11.9%	7.4%	4.5%
Monroe	85.8%	78.8%	7.0%	10.3%	8.4%	1.9%
Morgan	86.5%	80.6%	5.9%	10.7%	9.0%	1.7%
Muskingum	86.6%	80.6%	6.0%	14.6%	12.6%	2.0%
Noble	80.8%	78.6%	2.2%	9.5%	8.0%	1.5%
Perry	84.0%	78.9%	5.1%	11.0%	6.9%	4.1%
Pike	77.1%	70.2%	6.9%	11.4%	9.7%	1.7%
Ross	84.9%	76.2%	8.7%	15.0%	11.4%	3.6%
Scioto	82.2%	74.2%	8.0%	14.4%	10.1%	4.3%
Trumbull	88.3%	82.5%	5.8%	17.5%	14.4%	3.1%
Tuscarawas	86.6%	80.3%	6.3%	14.8%	12.2%	2.6%
Vinton	79.1%	70.7%	8.4%	8.7%	6.1%	2.6%
Washington	89.0%	84.5%	4.5%	16.6%	15.1%	1.5%

Source: 2000 U.S. Census
2007-2014 American Community Survey

Healthcare

The Ohio Development Services Agency's County Profile series reports on several data related to health and healthcare issues. The reported information is summarized in both Tables 7 and 8 on the next page. Table 7 deals specifically with access to facilities, insurance and doctors within the state and Appalachian region. Table 8 provides information on birth rates and teen birth rates per 1,000 women at the state and Appalachian region level, as well as the death rates per 100,000 persons. Based on this data, both the State of Ohio as well as the Appalachian region experienced a moderate decline in overall births, significant reduction in teen births and an increase in deaths per 100,000 between the years 2009 and 2013.

Table 7: 2013 Health Care Data

Healthcare	Ohio	Appalachian Ohio
Physicians (MDs & DOs)	32,399	2,841
Registered hospitals	225	49
Number of beds	45,555	6,615
Licensed nursing homes	934	203
Number of beds	90,552	18,036
Licensed residential care	620	98
Number of beds	46,781	5,945
Persons with health insurance (Aged 0 to 64)	86.50%	85.40%
Adults with insurance (Aged 18 to 64)	83.40%	82.20%
Children with insurance (Aged Under 19)	94.40%	93.80%

Source: 2013 ODSA County Profile Series

Table 8: 2013 Births and Deaths Percent Change

	Ohio 2009	Appalachian Region 2009	Ohio 2013	Appalachian Region 2012	Ohio Percent Change 09-13	Appalachian Percent Change 09-13
Rate of births/ per 1,000 women aged 15-44	65	62.9	62.2	61.4	-5.5%	-2.4%
Rate of teen births/ per 1,000 females 12-19	41	43.2	33.5	37.1	-9.5%	-14.1%
Rate of deaths per 100,000 population	925.6	967.3	940.1	1064.2	15.0%	10.0%

Source: 2013 ODSA County Profile Series

Two health-related issues are of particular concern to the Appalachian region, including Ohio Appalachia: the prevalence and severity of diabetes and an opiate abuse epidemic.

According to the 2013 Ohio Behavioral Risk Factor Surveillance System, "diabetes can result in serious complications such as heart disease, stroke, kidney disease, blindness and death. Age, obesity, family history, history of gestational diabetes, impaired glucose metabolism, physical inactivity and race/ethnicity can contribute to one's risk of developing diabetes." The 2015 Ohio Department of Health publication, *The Impact of Chronic Disease in Ohio*, provides the annual age-adjusted mortality rate of diabetes, per 100,000 persons, by county. Of the 22 counties with the highest diabetes mortality rate in the state, ten are located in the Ohio Appalachian region. Harrison County has the highest age-adjusted death rate of diabetes in the state at 63.7 per 100,000 persons.

The second health related issue impacting the Ohio Appalachian region is the opiate epidemic. The 2013 Ohio Department of Health (ODH) report, *Unintentional Drug Overdose Death Rates for Ohio Residents by County* shows that there are a disproportionately high number of overdoses in the southern and northeast Ohio Appalachian counties compared to the rest of the state. All counties throughout the Ohio Appalachian region experienced an increase in unintentional drug overdose death rates from 2012 to 2013. Since 2007, this epidemic has been the leading cause of injury-related death throughout Ohio, ahead of motor vehicle traffic crashes, suicide and falls. In the Ohio Appalachian region, half of all counties have a higher drug overdose death rate than the state average of 15 per 100,000 persons, with the counties of Brown, Scioto, Jefferson and Adams having the highest rates in the state at 32.5, 29.3, 27.9 and 27.6 persons per 100,000, respectively. Current statewide drug overdose data, as well as initiatives that the state has taken and plans on undertaking, can be found on the ODH website: http://www.healthy.ohio.gov/vipp/drug/dpoison.aspx.
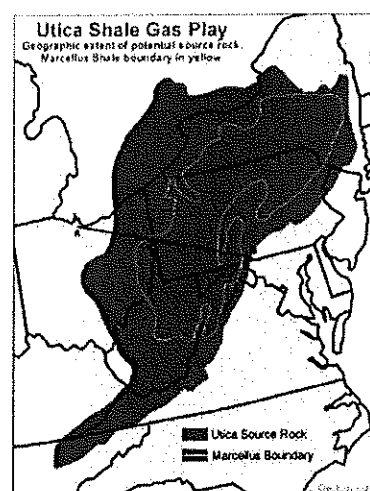
Shale

Ohio's Appalachian region is at a crossroads for economic development. The advancements made from extracting natural gas from native shale deposits, shown in Map 5, have created an opportunity to remake the regional economy of Ohio. Historically, the region has been a major contributor to the nation's need for timber, charcoal and coal. Past experiences with energy industries and economies have shown that great opportunities also bring great responsibilities. Achieving the potential of this regional opportunity will require public/private partnership and leadership that ensures the entire region benefits from activities related to oil and gas drilling and processing. It will also require a business climate that encourages common sense development of the resource while protecting the environment for future generations.

In August and September of 2011, the Ohio Department of Natural Resources (ODNR) held a series of "government-to-government" meetings on Utica and Marcellus shale development. ODNR staff met with local government leaders in eastern Ohio counties located in the Utica and Marcellus formations and with representatives from the Ohio Environmental Protection Agency, Ohio Department of Taxation, Ohio Department of Transportation, Public Utilities Commission of Ohio, Office of Workforce Transformation, Ohio Development Services Agency, Ohio Department of Health, and Ohio Department of Agriculture.

The meeting addressed topics including: state support; workforce development; effective environmental regulation; community services, taxes, and housing; emergency management: hazmat procedures, safety training, fire and emergency medical services (EMS); and road maintenance agreements, infrastructure upgrades, transportation issues, and weight limits.

Map 5: Ohio Shale Potential

Source: ODNR

In 2012, the Ohio Development Services Agency and the Governor's Office of Appalachia partnered with two Local Development Districts – the Ohio Mid-Eastern Governments Association and Buckeye Hills-Hocking Valley Regional Development District – to conduct Shale Development Roundtables in New Philadelphia and Marietta, Ohio. Speakers from various state and local government agencies were on hand to discuss programs and resources available to help communities navigate the shale industry expansion in Ohio. Topics included workforce training, affordable housing, job creation, transportation and public infrastructure investments that have been impacted by the oil and gas industry.

Senate Bill 315 (129th General Assembly), enacted in 2012, addressed advances in shale extraction by updating health and environmental regulations to help ensure safe, environmentally responsible operations, in the best interest of public health and safety, the environment, oil and gas workers, and the industry. A summary of the bill is located here:
http://governor.ohio.gov/docs/SB%20315_Energy%20FINAL.pdf.

Job creation is a major component to shale development. The potential for job creation in the counties containing shale deposits will come in three phases: pre-drilling, drilling, and post-drilling. All three phases require a workforce that includes commercial driver's license (CDL) drivers, heavy equipment maintenance technicians, office management and operation support and petroleum engineers.
The Ohio Department of Job and Family Services (ODJFS) estimates that 28 of the 38 occupations related to shale have median annual wages above the state median wage of $34,250. These wages, as well as many other wage estimates related to the petroleum industry for the Appalachian region, are included in Figure 7 (Page 9) of the ODJFS *2014 Annual Ohio Shale Report* that can be accessed

at http://ohiolmi.com/OhioShale/2014AnnualShale.pdf.

Current Shale Production

ODNR maintains the Oil and Natural Gas Well and Shale Development Resources page at its Division of Oil and Gas Resources Management website. The increased shale activity can be seen in Figure 4. The distribution of shale drilling projects throughout the region can be seen in Figure 5, which shows the counties that were issued drilling permits for horizontal Utica and Marcellus shale projects from 2011 to 2015. Map 6 on the next page shows that Ohio's shale development is heavily concentrated in the Appalachian counties. Shale wells have been permitted or are currently being drilled as far west as Holmes, Coshocton and Muskingum counties in Appalachia.

Figure 4: Horizontal Drilling Permits Issued by Month 2012 – 2015
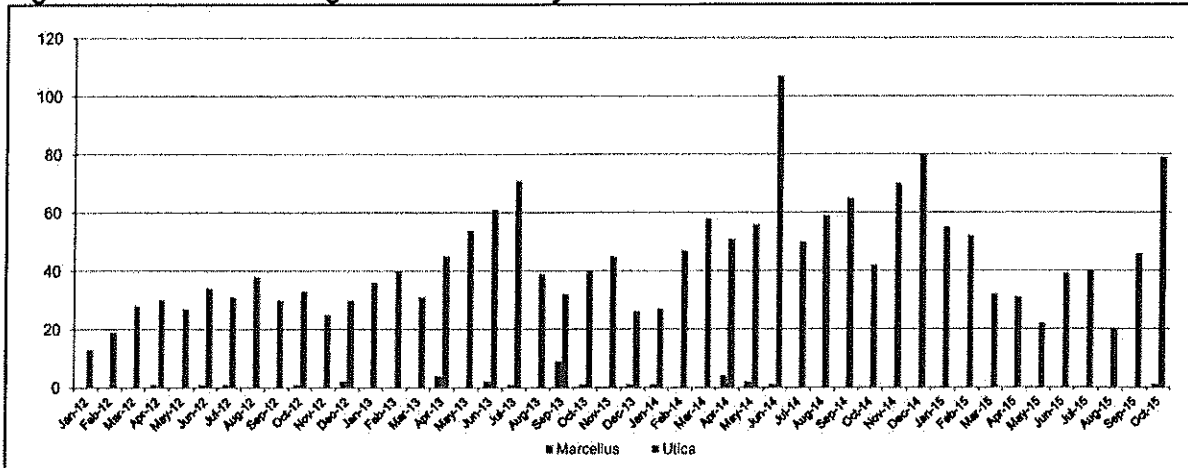
Source: ODNR Division of Mineral Resources and Management – Oil and Gas 11/2015

Figure 5: Horizontal Drilling Permits Issued by County 2012 – 2015
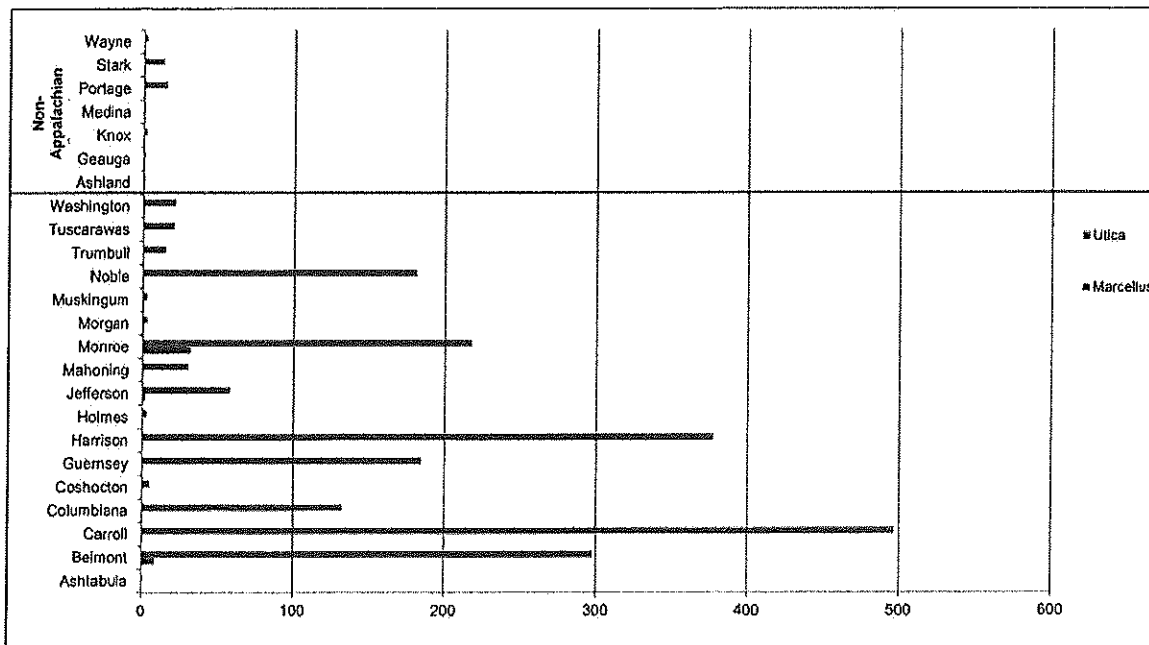
Map 6: Horizontal Shale Drilling Status and Locations 2012 – 2015

Shale Well Locations and Status
- Permitted
- Producing
- Drilled
- Drilling
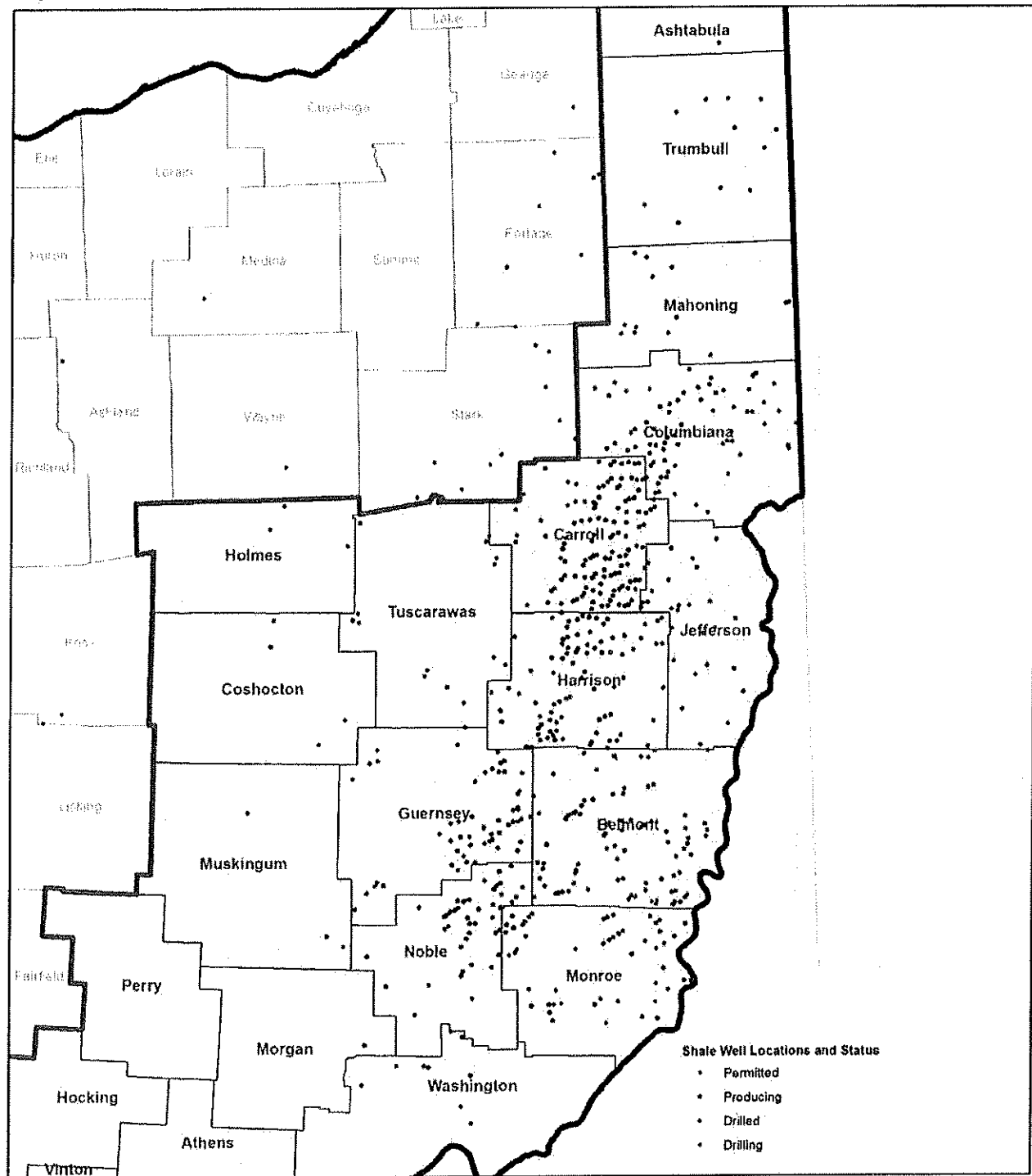
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Source: ODNR Division of Mineral Resources and Management 11/2015

New Initiatives

Local Government Innovation Fund

The Ohio General Assembly established the Local Government Innovation Fund (LGIF) to increase efficient delivery of local government services and for training on and implementing efficiency programs. Funded projects are expected to result in shared services between political subdivisions and are encouraged to facilitate improved business environments and promote community attraction through their innovative collaboration. The goal is to reduce costs to taxpayers overall through efficiency, collaboration and sharing services with other communities.

A total of $4.6 million was appropriated for FY 2014 and $5.9 million in FY 2015, which provides up to $100,000 in grant funds per feasibility study and up to $500,000 in loan assistance for collaborative projects.

Small political subdivisions such as Appalachian communities are given greater weight in project selection. Many Appalachian communities have used these funds to develop strategies for sharing public works facilities, working regionally to advance technology and improve education. Since the launch of the program, ten Appalachian applications were approved for loans totaling $867,000. A total of 38 grant applications from organizations and communities in Appalachia Ohio were funded totaling $2,761,293.

Transportation

Ohio has been exercising the option outlined in Section 9.6 of the ARC Code to direct a portion of its annual Appalachian Development Highway System (ADHS) funds to the Local Access Road (LAR) program. Each ARC state had the option to use $500,000 plus an amount up to 5 percent of its annual highway allocation for LAR projects, provided the total amount does not exceed $1 million. Using this formula, Ohio allocated $1 million annually since 1986 for local access roads that "better link the region's businesses, communities, and residents to the Appalachian Development Highway System and to other key parts of the region's transportation network." LAR projects are identified at the local level and developed with assistance from the Local Development Districts (LDDs). Applicants submit LAR applications to their LDD for approval, and funded projects become part of the State Investment Package forwarded to ARC. The Ohio Department of Transportation (ODOT) administers the Local Access Road projects and, along with ARC and the Federal Highway Administration, approves Ohio's LAR projects. Through 2012, all applicants for LAR projects have been required to document a match, ranging from 20 percent to 70 percent of the total project costs.

Historically, Ohio funded an average of two LAR projects each year, contributing approximately $500,000 to each project. The two-year reauthorization of the surface transportation program, Moving Ahead for Progress in the 21st Century, or MAP 21, eliminated dedicated funding for the ADHS and the Local Access Road program. Projects have continued to be eligible for federal funding as a permissible activity under the Surface Transportation Program (STP) block grant provided to Ohio, and ODOT agreed to provide $1 million in STP funds annually to continue the LAR program. Project activities are eligible for 100 percent federal funding.

Local access road projects are one example of Ohio LDDs' involvement with ODOT and with transportation funding and planning. The LDDs have been working to build their expertise and capacity to work with other transportation planners, and a stronger partnership and additional coordination of rural transportation projects is desired. MAP 21 legislation, along with the current federal transportation bill, Fixing America's Surface Transportation (FAST) Act, provide a framework for their expanded role in rural transportation planning.

As part of the State of Ohio's ADHS Completion Plan, which was required by MAP-21, ODOT determined that Corridor B, known as the Southern Ohio Veterans Memorial Highway, is a priority. The Southern Ohio Veterans Memorial Highway will be a 16-mile, four-lane divided, limited access highway around the city of Portsmouth in Scioto County. In 2011, Ohio House Bill 114 allowed ODOT to enter into a public-private partnership to construct, finance and manage large-scale transportation projects, which will allow the project to be completed in a single phase. Due to lack of local interest, Corridor C, a section of U.S. Route 23 running from just outside Lucasville north to Interstate 270 in southern Franklin County, is not currently scheduled for completion.

The 2013 *Appalachian Development Highway System: Completion Plan Report* has indicated that Ohio has 23.2 miles of ADHS corridors remaining to be completed on corridor B and C.

Rural Transportation Planning

In conjunction with the National Association of Development Organizations (NADO) and its research foundation, the LDDs in Ohio advocated for establishing formal Regional Transportation Planning Organizations (RTPOs) in federal highway legislation. Ohio's RTPO Pilot Program was initiated in July 2014 with three LDDs. In the following two and a half years, the RTPO developed and adopted the first ever Transportation Plans for the regions, established transportation conditions and operational databases, and focused on identifying transportation project funding opportunities for local government project sponsors.

Following a competitive RFP process, Governor John Kasich officially designated the Buckeye Hills-Hocking Valley Regional Development District, Ohio Mid-Eastern Governments Association and Ohio Valley Regional Development Corporation as RTPOs on January 27, 2016. According to NADO, Ohio was the first state in the nation to make such a designation. RTPO can assist the state in moving beyond its traditional role of building and repairing roads to a role as a strategic creator of interconnected public transit, rail, road, and water routes to boost economic development. With their experience in regional planning, project prioritization and management, and administration of state and federally funded projects, the LDDs are well-placed to assist the state in identifying and prioritizing regional transportation needs.

The current federal transportation bill, the FAST Act, was signed into law on December 4, 2015. The bill reforms and strengthens transportation programs, refocuses on national priorities, provides long-term certainty and more flexibility for state and local governments, streamlines project approval processes, and maintains a strong commitment to safety. The FAST Act did not change any of the provisions for the RTPO established in MAP-21. The legislation does the following:

- Establishes a formal definition and scope of work for Regional Transportation Planning Organizations (RTPOs) to serve areas outside the boundaries of Metropolitan Planning Organizations (MPOs). It provides that "a state may establish and designate regional transportation planning organizations to enhance the planning, coordination, and implementation of statewide strategic long-range transportation plans and transportation improvement programs, with an emphasis on addressing the needs of nonmetropolitan areas of the state."

- Requires states to cooperate with nonmetropolitan local officials (or if applicable, through RTPOs) in carrying out the planning sections of the bill and in the development of the Long-Range Statewide Transportation Plan with respect to nonmetropolitan areas.

- Outlines that states shall, to the maximum extent practicable, develop a consultative process for nonmetropolitan local official involvement (including through RTPOs) that is "separate and discrete" from the public involvement process.

- Allows states to consult with nonmetropolitan local officials (or if applicable, through RTPOs) in the development of the Statewide Transportation Improvement Program (STIP) with respect to nonmetropolitan areas. The STIP is the four-year program for project investments.

- Clarifies that certain categories of federal highway projects for areas of less than 50,000 people would be selected by the state in cooperation with affected nonmetropolitan local officials (or if applicable, through RTPOs). For National Highway System, Interstate maintenance and bridge, and sections 5310, 5311, 5316, and 5317 transit projects, the state will select projects in consultation with affected nonmetropolitan local officials.

- Structures the RTPOs so that a fiscal and administrative agent, such as an existing regional planning and development organization, shall be selected to provide professional planning, management and administrative support. The bill also requires RTPOs to form a policy committee and carry out specific planning and coordination activities.

Relationship between Ohio's Grant Investment and Appalachian Development Highway System

In order to complete projects with the limited Appalachian Development Highway System (ADHS) funds available, ODOT is able to aggregate Ohio's apportioned ADHS funds and use them to coordinate the preliminary engineering, design, right-of-way acquisition, and construction over the length of each project. Projects using ADHS funds are required to provide a minimum match of 20 percent of the total project cost.

ODOT is committed to finishing Corridor B, the Southern Ohio Veterans Memorial Highway, at an estimated remaining cost of $400 million. Plans to complete Corridor B and other sections of the ADHS will be subject to the requirements of Moving Ahead for Progress in the 21st Century, MAP 21.

Signed into law in July 2012, MAP 21 eliminated the provision of dedicated funding for the ADHS but provides an incentive to the Appalachian states to use a portion of their MAP 21 funding to complete the ADHS. Beginning in October 2012, the two-year MAP 21 authorization provides approximately $1.3 billion in block grant funds to Ohio to be used for any of several surface transportation programs, as determined by ODOT. While none of the block grant funds will be set aside for the ADHS or for Appalachian Ohio, the funds used for ADHS projects will not require the 20 percent match from Ohio that other programs will require.

Broadband

The Connect Appalachia Broadband Initiative (CABI) is a task force bringing together public, private, and nonprofit organizations as partners committed to improve access to broadband service in the region. Making broadband available to businesses and residents in rural Appalachia will improve computer literacy in the Ohio Appalachian region and increase access to greater economic opportunity.

The cost of the digital divide to Appalachian businesses was presented in Connect Ohio's April 2012 report *Bridging the Divide: Broadband and Businesses in Appalachian Ohio*. Businesses with Internet access use it to earn revenues from online sales. Connect Ohio found that the majority of Appalachian businesses that are not using broadband are small, employing fewer than 20 employees. Businesses in Ohio Appalachia of the same size using broadband earn more than $100,000 more in annual revenue.

The Governor's Office of Appalachia's 2014 goals included the continued expansion of broadband access in the region, which will have a direct impact on the economic development of the region and

the quality of life in the Appalachian region will continue to improve. Broadband access has improved over the period of 2010 to 2014 by nearly 35%.

Workforce Development

A key factor in job creation is the availability of a qualified workforce. Recognizing this, Governor Kasich created the Governor's Office of Workforce Transformation – a team committed to developing a skilled workforce, promoting effective training programs, and connecting Ohio employers with qualified workers. The efforts of the Governor's Office of Workforce Transformation are guided by its four strategic goals, as outlined below:

Strategic Goal 1 – Identify Business Needs

Previously, workers and training institutions did not have a reliable, consistent method for identifying the most in-demand jobs or skills that industries need. Developing the ability to concisely and effectively summarize workforce needs - and encouraging participation from Ohio employers - has been the first step to aligning the system and training programs with those needs, creating a more efficient and organized workforce. Through a process developed in partnership with the business community, Ohio has identified and analyzed the most urgent workforce needs of businesses, deployed a statewide jobs forecasting tool, and compiled the results into easy-to-read summaries. These reports represent a dynamic database of information on the urgent workforce needs of Ohio employers, and can be used by policy makers, students, educators and individuals to better inform career decisions.

Strategic Goal 2 – Connect Businesses and Workers

By coordinating the more than 90 workforce programs across 13 state agencies, Ohio can make the necessary updates and ensure better connections between businesses and workers. The Office of Workforce Transformation and the Governor's Executive Workforce Board are committed to improving programs statewide to ensure better coordination and a commitment to connecting businesses with qualified talent. In 2016, Ohio submitted a Combined State Plan that combined the strategic planning documents for the major federal workforce programs.

Strategic Goal 3 – Align Training to Business Needs

Businesses in Ohio often struggle to connect with qualified people to fill high-demand job openings. Through efforts to align the state's largest workforce programs, coupled with a forecast of businesses' most urgent job needs, Ohio's local workforce, education, and training systems are now in a better position to fill the gaps. One of the key components of this work is OhioMeansJobs.com, the state's online career-advising and job-connecting website.

Strategic Goal 4 – Measure Workforce Programs

Common workforce success measures have been developed to better align with business needs and create an easier way to compare programs serving similar customers.

On July 1, 2016, Ohio began the Comprehensive Case Management and Employment Program (CCMEP) which serves low-income youth, ages 16 to 24 years old, through a new person-centered approach combining the best of the public assistance and workforce programs to provide a clear path to self-sufficiency for this vulnerable population. Ohio's workforce system's job training, coaching and placement expertise provide critical components needed to ensure that these young people enter the workforce with the skills needed to make them ready to work and meet the employment needs of local businesses.

Ohio's ARC Process

The Ohio Development Services Agency's (ODSA's) Office of Community Development is responsible for preparing the Development Plan through coordinated efforts with the Ohio LDDs and their members, nonprofits organizations, local communities, JobsOhio and their regional partner organizations. The agency ensures the 32-county Appalachian region has access to all programs available in the state. The agency administers federally-funded programs and services, including the Appalachian Regional Commission and the matching state grant program. Ohio is the only state in the 13-state federal Appalachian region to earmark state funding for the region.

Local Development Districts (LDDs)

The role of the LDD is to coordinate project development beginning at the local and county level and advancing through the regional, state, and federal level. The four LDDs are shown on Map 9 along with their respective websites.

The LDDs prioritize the needs of their local communities and work with their board members and other local citizens to develop plans for their communities' economic development, focusing on the most pressing needs and building community unity and leadership.

The FY 2016 – 2019 Development Plan includes input from the Governor's Office of Appalachia Director and staff from the four local development districts, the Governor's office, and ODSA, through the Office of Community Development; stakeholders from Appalachian Ohio; and the ARC 2011-2016 strategic plan, which identifies twenty high-priority issues listed in Table 9.
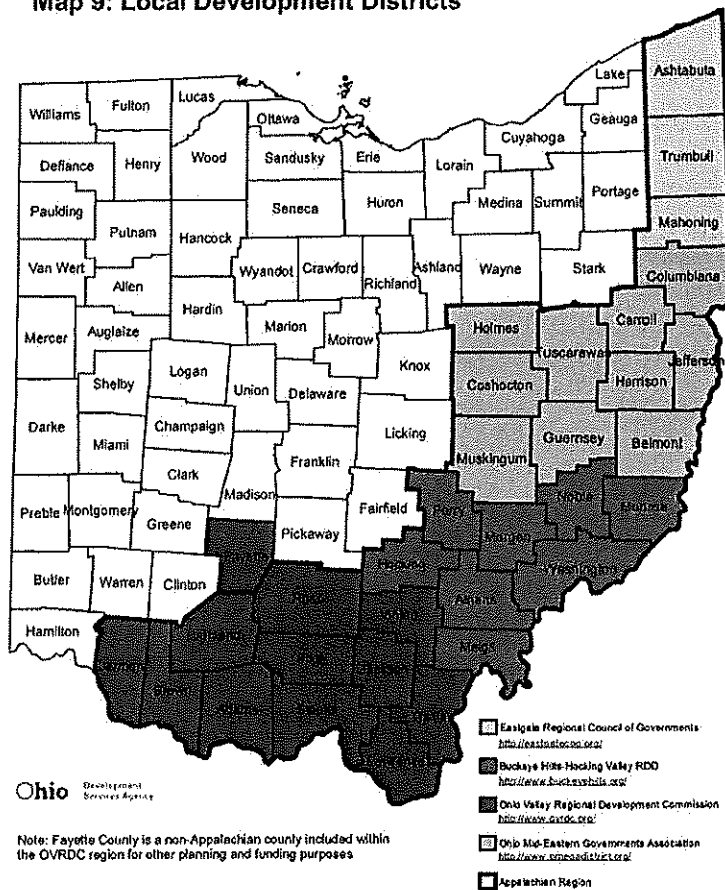
Map 9: Local Development Districts

Ohio Development Services Agency

Note: Fayette County is a non-Appalachian county included within the OVRDC region for other planning and funding purposes

- Eastgate Regional Council of Governments
  http://eastgatecog.org/
- Buckeye Hills-Hocking Valley RDD
  http://www.buckeyehills.org/
- Ohio Valley Regional Development Commission
  http://www.ovrdc.org/
- Ohio Mid-Eastern Governments Association
  http://www.omegadistrict.org/
- Appalachian Region

Table 9: ARC 2011 – 2016 Strategic Plan High Priority Issues

| No.	LDD High Priority Issues	No.	LDD High Priority Issues
1	Growing jobs with local assets and local resources	11	Conserving the natural places in Appalachia for ecotourism
2	Assisting existing businesses in the Appalachian Region	12	Improving the job readiness of high school graduates
3	Developing regional solutions to problems	13	Investing in high-tech worker training and retraining
4	Diversifying the local economic base	14	Preventing the pollution of surface water and ground water
5	Encouraging sustainable economic use of natural resources	15	Investing in job readiness of community college graduates
6	Investing in clinical care in areas without basic services	16	Promoting an entrepreneurial education at all levels of education
7	Developing public/private partnerships	17	Improving the energy efficiency of buildings
8	Improving the college graduation rate in Appalachia	18	Recruiting new industries to Appalachia
9	Investing in broadband infrastructure	19	Increasing the availability of capital
10	Investing in long-term planning and strategic planning	20	Extending infrastructure to support job creation

JobsOhio

JobsOhio is a private, non-profit corporation established in 2011 to drive job creation and new capital investment in Ohio through business attraction, retention and expansion efforts.

In 2015, JobsOhio worked with its network partners on 330 projects and assisted Ohio companies that committed to create 23,602 new jobs. Companies committed to make $6.7 billion in new capital investment across Ohio.

The JobsOhio Network of six regional economic development organizations with deep ties to their local communities provides a statewide platform for attraction of major job-creating businesses. Ohio's 32 Appalachian counties are served by three JobsOhio regional partners. The largest is **Appalachian Partnership for Economic Growth** (APEG) which works with local development districts of Buckeye Hills, Ohio Mid-Eastern Government Association (OMEGA) and Ohio Valley Regional Development Commission

Map 10: JobsOhio Network

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(OVRDC) to serve: Adams, Athens, Belmont, Carroll, Coshocton, Gallia, Guernsey, Harrison, Highland, Hocking, Holmes, Jackson, Jefferson, Lawrence, Meigs, Monroe, Morgan, Muskingum, Noble, Perry, Pike, Ross, Scioto, Vinton, and Washington counties (shown here in green). In the northeast corner of the state, **Team NEO** works with local development districts Eastgate and OMEGA to serve Ashtabula, Trumbull, Mahoning, Columbiana, and Tuscarawas counties. In the southwest, OVRDC local development district works with **REDI Cincinnati** to serve Brown and Clermont counties.
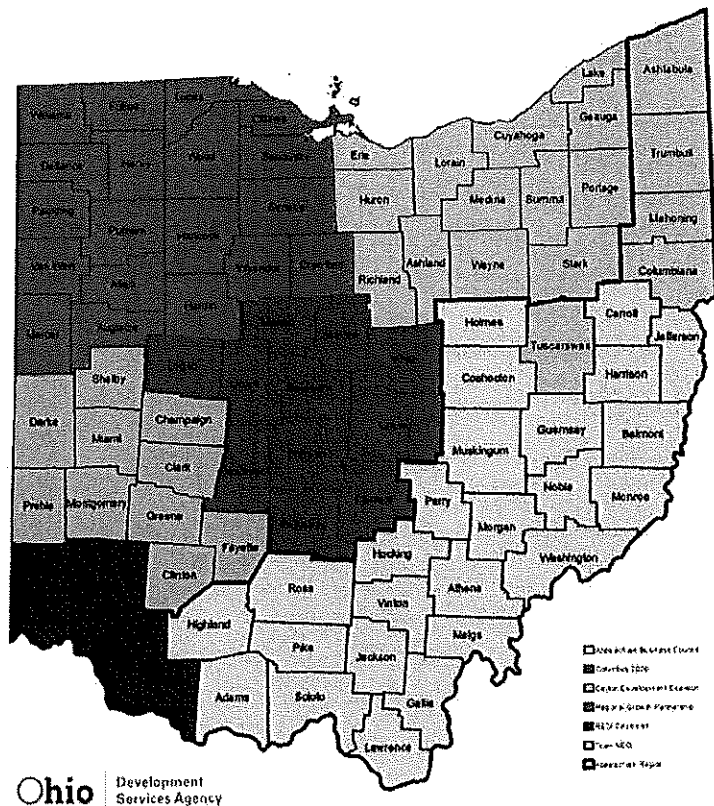
JobsOhio, its regional and local partners and ODSA, work collectively to deliver an economic growth strategy which encourages creation of jobs that provide average to above-average wages, workforce development and corporate capital investment. ODSA supports JobsOhio and its regional partners' economic development efforts. Among its responsibilities, ODSA administers state incentives to companies including loans, grants and tax credits.

Relationship of Annual Strategy Statement and 2016 – 2019 Development Plan

The State of Ohio Four-Year Appalachian Development Plan, 2016 – 2019, is currently being prepared as a joint effort among the four LDDs, the Governor's Office of Appalachia Director and program manager, the Governor's Office, and the Ohio Development Services Agency's Office of Community Development to reflect the state's economic and community development priorities for Ohio's Appalachian region. The LDDs take the lead role in identifying the unique strengths, barriers, opportunities, and threats to their member-county and multi-county regions. The LDDs work with their governing boards, members, and citizen advisory groups to evaluate and prioritize the economic needs in their respective regions and to identify strategies organized around ARC's four general goals to address those needs. These are reflected in each subsequent annual strategy statement, prepared with assistance from the same group of stakeholders as a supplement to the development plan and highlighting a twelve-month program designed to achieve the goals and objectives of the larger plan.

ARC Goals, Objectives, and Strategies

The Ohio LDDs - Buckeye Hills-Hocking Valley Regional Development District, OMEGA, OVRDC, and Eastgate - work with their governing boards, members, and citizen advisory groups to evaluate the economic needs in their respective regions. Each organization publishes periodic reports about its region's strengths and challenges to identify and implement programs and projects that foster economic development and enhance the business climate and quality of life in Appalachian Ohio. As indicated in the goals and objectives below, coordination with other agencies will continue to be important as many of the goals and objectives can be achieved through services provided by other agencies whenever possible. Information from the LDDs' most recent reports and strategic plans is compiled below, organized based on ARC's four general goals.

ARC Goal 1: Increase Job Opportunities and Per Capita Income in Appalachia to Reach Parity with the Nation

OBJECTIVE 1.1: Promote available capital and technical assistance for developing and expanding businesses.

1.1.1   Support and raise awareness of ARC-funded Revolving Loan Fund (RLF) programs, administered by the LDDs, as well as other private and public capital investment resources available to Appalachian Ohio.

1.1.2   Support efforts to enhance the service delivery of technical assistance that targets business development and growth.

OBJECTIVE 1.2: Diversify the economic base.

1.2.1: Enhance workforce training initiatives, develop entrepreneurial investment opportunities through regional partnerships, and promote technological advances and technology-related businesses and services.

1.2.2: Raise awareness about economic development tools, policies, programs, and initiatives available to strengthen and diversify the economic base.

1.2.3: Provide workforce training opportunities for businesses to increase competitive advantage.

1.2.4: Increase the number of Appalachian companies engaged in exporting and the volume of exported goods and services.

1.2.5: Encourage activities that promote Ohio's energy sector.

1.2.6: Support business incubator improvements that enhance job creation and growth.

1.2.7: Promote the development and implementation of energy efficiency and conservation technologies.

1.2.8: Support economic development marketing efforts by the local development districts and regional economic development organizations to attract new business to the region and to gain the attention of site selection consultants about the region.

OBJECTIVE 1.3: Promote a regional economic development strategy that incorporates the travel and tourism industry and its partners and assets.

1.3.1: Support efforts to enhance local, regional, state and multi-state strategies for tourism development.

1.3.2: Increase collaboration among the Ohio Department of Natural Resources, TourismOhio, and Ohio Appalachian tourism organizations to promote cultural, heritage and natural attractions.

1.3.3: Support and raise awareness for entrepreneurial development programs that help businesses capitalize on Appalachian Ohio tourism resources.

OBJECTIVE 1.4: Create economic opportunities from environmental recovery and adaptive reuse (brownfield) projects that capitalize on natural and existing assets.

1.4.1: Strategically partner Appalachian communities with the Ohio Development Services Agency to identify and remove obstacles to sustainable revitalization through innovative financing, critical resources, and site development expertise.

1.4.2: Raise awareness and leverage support for the restoration and reuse of strip mines and acid-mine drainage-impacted streams.

OBJECTIVE 1.5: Encourage sufficient access to technical, managerial, and financial expertise for start-up and developing businesses in Appalachian Ohio.

1.5.1: Support efforts to enhance the service delivery of technical assistance targeted toward business development and growth.

OBJECTIVE 1.6: Encourage sufficient access to technology transfer expertise for startup and developing businesses in Appalachian Ohio.

1.6.1: Support the implementation of technology transfer initiatives in Appalachian Ohio.

OBJECTIVE 1.7: Encourage sufficient access to entrepreneurial education and training for startup and developing businesses in Appalachian Ohio.

1.7.1: Support entrepreneurial education and training programs that target youth, as well as businesses and trade groups.

Below are examples of outputs and outcomes for Goal I projects used by ARC to track project results. All grant applications should include projected outcomes; ARC-funded projects must report actual output and outcome measures as part of the project's Final Report.

Project Type	Output	Outcome
Entrepreneurship Education	• Number of participants	• Number of businesses created • Number of participants with improved skills • Number of participants completing program (i.e. course with certified skills)
Business Incubator	• Number of businesses assisted • Number of participants	• Number of businesses created or graduated • Number of jobs created • Amount of Leveraged Private Investment (LPI)
Tourism Development	• Number of businesses assisted	• Number of jobs created • Amount of LPI • Number of "new" tourists
Telecommunications	• Number of trainees enrolled • Number of new sites added to network	• Number of trainees with improved skills • Number of households served with improved access • Number of miles of infrastructure or new technology deployed

ARC GOAL 2: Strengthen the Capacity of the People of Appalachia to Compete in the Global Economy.

OBJECTIVE 2.1: Enhance workforce skills through training.

2.1.1: Increase the utilization of the Appalachian Training Investment Partnership to support development and modernization of work-force training and vocational programs.

2.1.2: Support innovative means to re-tool the region's workforce.

2.1.3: Work toward building the capacity of training institutions, including but not limited to two- and four-year colleges and career technical schools, to provide real-life skill training that is applicable to in-demand jobs.

OBJECTIVE 2.2: Increase educational attainment and achievement.

2.2.1: Enhance local and regional efforts to better prepare students, out-of-school youths and adults for post-secondary training.
2.2.2: Maintain and expand programs that increase college enrollment rates.
2.2.3: Support preventative measures that reduce the number of dropouts.
2.2.4: Support efforts to improve technology education in order to prepare the Appalachian workforce for the new economy.
2.2.5: Support the development of comprehensive, community-based education programs for children and families.
2.2.6: Support programs that increase the number of individuals with high school or high school equivalency diplomas.

OBJECTIVE 2.3: Promote health care access and good health through wellness and prevention programs.

2.3.1: Support local efforts to recruit health professionals in order to eliminate Health Professional Shortage Areas (HPSAs).
2.3.2: Support local efforts to improve medical facilities, equipment and technology in Appalachian Ohio.
2.3.3: Create a learning environment that will produce world-class health care professionals.
2.3.4: Promote programs focused on nutrition education, understanding the importance of physical activity and early screening as a means of eliminating or reducing the incidence of obesity, diabetes, cancer and heart disease.
2.3.5: Support programs that reduce drug and/or alcohol abuse.

OBJECTIVE 2.4: Support community-based institutions devoted to citizen mobilization, strategic planning, and economic and community development in Appalachian communities.

2.4.1: Support the continuing efforts of the Local Development Districts to serve as conveners of community efforts and marketers and catalysts for economic development.
2.4.2: Support the efforts of the Governor's Office of Appalachia to improve the economy of the region and provide its residents with a better standard of living.
2.4.3: Through demonstration projects, technical assistance and research help communities reinvent key institutions, form new partnerships and initiate new services.
2.4.4: Support local-level planning to develop shared visions for communities and encourage the incorporation of local planning priorities into state and regional plans.

OBJECTIVE 2.5: Strengthen the capacity of communities and organizations in Appalachian Ohio to build and sustain entrepreneurial networks of professional and trade service providers.

2.5.1: Support programs and initiatives which call for collaboration and cooperation of entrepreneurial service providers.

OBJECTIVE 2.6: Support access to quality, affordable day care and other related facilities in order to accept and retain employment opportunities for the Appalachian Ohio workforce.

2.6.1: Support efforts and initiatives that expand access to quality childcare and early childhood education.

2.6.2: Provide support for the development of day care and related facilities in service shortage areas of Appalachian Ohio.

OBJECTIVE 2.7: Encourage integrated health care delivery systems designed to provide universal access and comprehensive service at a reasonable cost in Appalachian Ohio counties.

2.7.1: Support telemedicine as a means of universal access to comprehensive health care.

2.7.2: Support programs that encourage careers in rural medicine and prepare potential health care providers for life in rural and Appalachian communities.

2.7.3: Support partnerships that provide access to inpatient and ambulatory care support services, such as home care, hospice, medical transportation companies, emergency care, post-acute and sub-acute care, chronic disease management, palliative care, mental health services, substance abuse services, dental services, and wellness centers, focusing on service shortage areas of Appalachia Ohio.

Below are examples of outputs and outcomes for Goal II projects used by ARC to track project results. All grant applications should include projected outcomes; ARC-funded projects must report actual output and outcome measures as part of the project's Final Report.

Project Type	Output	Outcome
Civic Entrepreneurship - Organizational Capacity/ Individual Capacity (applicable to multiple goals)	• Number of new programs • Number of individual participants	• Number of participants completing training and actively involved in leadership positions • Number of communities implementing plans • Increase in organization's efficiency, effectiveness and diversity
Workforce Training	• Number of students enrolled in program	• Number of students with improvements (i.e. obtain or enhance their employment) • Number of individuals employed
Adult Literacy	• Number of students enrolled	• Number of students with improvements (i.e. obtain GED or other milestone)
Health Care	• Number of individual patients/ participants • Number of clinics renovated	• Number of patients with improved health care • Number of healthcare providers recruited
Educational Attainment	• Number of students enrolled in program	• Number of students with improvements (i.e. graduate high school/college, continue education, obtain employment)

ARC GOAL 3: Develop and Improve Appalachia's Infrastructure to Make the Region Economically Competitive.

OBJECTIVE 3.1: Build and enhance public infrastructure.

3.1.1: Make strategic investments that leverage federal, state and local capital for the development and improvement of water and wastewater systems.

3.1.2: Promote multi-county regional approaches that address infrastructure needs of small communities.

3.1.3: Provide assistance to local governments and not-for-profit organizations for basic infrastructure damage and building/structural damage caused by flooding and/or natural disasters.

3.1.4: Support the development of disaster risk reduction programs through partners such as the Ohio Department of Natural Resources and the Ohio Emergency Management Agency.

OBJECTIVE 3.2: Increase accessibility and use of broadband telecommunication technology.

3.2.1: Make strategic investments in advanced telecommunications infrastructure to increase local and regional connectivity to high band-width (broadband) networks.

3.2.2: Support programs that assist citizens or businesses in learning to use information technology.

3.2.3: Support partnerships with educational institutions, corporations, health care providers and institutions, government entities and telecommunications providers.

OBJECTIVE 3.3: Invest strategically in transportation infrastructure to help develop and further diversify market access.

3.3.1: Promote economic development and safe transportation by supporting initiatives related to improving designated federal highways, state routes and other transportation corridors and infrastructure in the region.

Below are examples of outputs and outcomes for Goal III projects used by ARC to track project results. All grant applications should include projected outcomes; ARC-funded projects must report actual output and outcome measures as part of the project's Final Report.

Project Type	Output	Outcome
Water/Sewer System	• Linear feet of pipe installed • Increase in capacity or storage (measured in millions of gallons per day [MGD]) • Number of businesses served	• Number of households with new service or improved quality of service • Number of jobs created and retained • Amount of Leveraged Private Investment (LPI)
Industrial Park & Site	• Linear feet of pipe installed • Number of businesses served	• Number of jobs created and retained • Amount of LPI
Access Road	• Miles of road constructed • Number of businesses served	• Number of jobs created and retained • Amount of LPI

ARC GOAL 4: Build the Appalachian Development Highway System (ADHS) to reduce Appalachia's isolation.

OBJECTIVE 4.1: Foster growth models to fully utilize the highway system for job creation opportunities.

4.1.1: Support multi-jurisdictional mechanisms to promote completed sections of the highway system for economic growth.

4.1.2: Encourage long-term planning by local and regional leadership in order to take full advantage of the economic and community-building opportunities presented by existing and planned highway system corridors, both within and apart from the ADHS.

4.1.3: Improve outreach and awareness efforts to help communities fully integrate the ADHS highway system into economic development planning strategies.

4.1.4: Promote a development approach for the highway system that preserves the cultural and natural resources of the region while enhancing economic opportunities.

OBJECTIVE 4.2: Promote completion of the Appalachian Development Highway System.

4.2.1: Improve communication between the Governor's Office of Appalachia Director, ARC Program Manager, the Local Development Districts, Ohio Department of Transportation, and Federal Highway Administration to identify and overcome barriers to developing the highway system situated in the location study phase.
4.2.2: Support efforts to obligate the maximum amount of the annual appropriation for highway system construction and work with the Ohio Department of Transportation to complete construction of the final phases of the highway system.
4.2.3: Continue to work with the Ohio Department of Transportation, local and regional planning organizations, and others to identify critical highway interchanges and priority miles along the ADHS.

OBJECTIVE 4.3: Capitalize on the economic potential of the Appalachian Development Highway System.

4.3.1: Support regional business attraction models that effectively promote completed sections of the ADHS.
4.3.2: Support the installation of broadband infrastructure during construction of the ADHS system.
4.3.3: Promote cooperative projects and programs between economic development and state highway planning officials.
4.3.4: Encourage strategic planning to help direct and select effective development along future segments of the system.

OBJECTIVE 4.4: Coordinate Appalachian Development Highway System state-line crossings.

4.4.1: Coordinate technical information, funding disbursements and construction schedules among Kentucky, Ohio, Pennsylvania and West Virginia in order to facilitate the completion of state-line crossings of highway system corridors.

Below are examples of outputs and outcomes for Goal IV projects used by ARC to track project results. All grant applications should include projected outcomes; ARC-funded projects must report actual output and outcome measures as part of the project's Final Report.

Project Type	Output	Outcome
ADHS	• Number of miles created	• Number of jobs created and retained
Access Road	• Number of miles created	• Number of jobs created and retained